

2011-12 Gates: Pre-College Math Grant LCC_APP8065**Status: Submitted****Applicant Information****Organization:** Lower Columbia College**Consortium:** No**Contact:**

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AttachmentsFALL 2010 AND WINTER 2011 MATH STUDENT QUESTIONNAIRE 079
CLASSROOM

Placement Flowchart

MATH 079 Instructor Expectations

Every Graphic Possible

Quarterly Workshop Schedule ALL

Contents

Section 1

Project Participation

1A. Provide an updated list of the college faculty/staff who are *core team members* involved in leading and/or implementing the project.

The core people developing and implementing curriculum are:

Dawn Draus

Terri Skeie

Brad Benjamin

Cary Rhode

1B. Estimate the approximate percentage of math department members (full-time and part-time/adjunct *separately*) who have participated in some kind of project-related activity (campus events, use of CATs, classroom exchanges, etc.).

Of the current 7 full-time math faculty:

* 100% have participated in curriculum revision and have attended at least one “FIG” meeting.

* 86% have attended meetings regarding the use of CATs.

* 71% have attended an RPM sponsored event (summer institute and/or quarterly retreat)

Of the 13 adjunct faculty employed at LCC in the pre-college math area during the last year:

* 69% have attended a FIG

* 46% have attended training on CATs

* 31% have attended (or will attend) an RPM sponsored event (summer institute and/or quarterly retreat)

* 85% have attended at least one technology training on MyMathLab

Section 2

Progress Report on Project Activities and Challenges

2A. One of our core project themes is to make learning and teaching “visible” through incorporating the common practices of 1) *classroom observations/exchanges* and 2) *classroom assessments* into 3) *faculty inquiry* efforts at each of the project colleges. Describe to what extent and in what ways you have incorporated these three areas of practice into your project over the past year, including who in the department has been involved with each area.

CATs – Terri Skeie has prepared a letter to invite PCM faculty to use CATs and to follow up with her in a brief assessment. We have supported workshops to provide training on CATs to faculty. The most frequently used CAT has been the clearest and muddiest point, with several faculty reporting that their daily practice is now informed by this assessment. Some are also using the feedback immediately. Faculty actively using CATs are: Terri Skeie, Mike Skeie, Bryn Byker and Rick Brien, Sue Johnson and Alice Trevino.

All newly hired faculty are part of our professional partner program, and receive feedback from a more experienced faculty partner. They are also invited to attend other faculty’s class sessions. Classroom observations are performed annually or more frequently by the transfer dean, with formative feedback provided directly to the faculty.

FIGs are increasingly more effective at bringing faculty together to talk about instructional practice and student work. The curriculum in the 07X sequence has been sufficiently mature so that faculty can focus more on delivery and andragogy. We anticipate this will happen during the next year with the 08X and 09X courses in the next year.

Classroom exchanges have not become a common practice and will be an area of special focus in this next year.

2B. Describe other specific project-related activities you and your team have done since last summer; by the end of year 2 of the grant (August 31, 2011), what will your team have accomplished toward the overall stated goals of your project?

Team members have prepared workshops for students in PCM covering the following topics:

ATTRIBUTES WORKSHOPS

Time Management

Learning Styles

Math Anxiety

Textbook Reading

Test Taking Strategies

Test Anxiety
Making HW Meaningful
Asking Good Questions
Next Math Class?
Preparing for Finals

MATH 079 WORKSHOPS

Integer Operations
Simplifying Fractions
Mult/Div Fractions
Add/Sub Fractions
Decimal Operations
Frac/Dec Problem Solving
Proportion Problems
Percent Applications
Solve Percent Equations
Geometry

MATH 089 WORKSHOPS

Equation Solving
Solving Inequalities
Equation Solving
Graph Linear Equations
Equations of Lines
Set up Word Problems
Solve Word Problems
Working w/ Exponents
Polynomial Operations
Factoring
More Factoring

MATH 099 WORKSHOPS

Systems of Equations
Add/Sub Rationals
Systems of Equations
Mult/Div Rationals
Solve Rational Equations
Operations on Radicals
Solve Radical Equations
Solve Quadratics

Graph Quadratics
Functions
Logarithms

Instructor and student materials have been placed in an electronic repository so the workshops can be repeated each quarter. Each workshop is scheduled for multiple times each quarter and “just-in-time.” Additional workshops are being developed and will have supporting material archived in the repository. The schedule is posted prominently and is a featured part of each PCM class. (See attachment: Quarterly Workshop Schedule ALL.docx)

Faculty have created practice tests for each module, worksheets organized by topic, vetted websites, classroom activities, and other many other instructional materials for each of our new courses (Math 078, 079, 088, 089, 098, and 099). A common final is now used by all instructors. Each of the new courses also has support materials. For example, instructors can use any of the following: Module 1 Practice (available for modules 1-14); Multiply and divide Rational Expressions; Operations on Radicals; Rational Equations; Rules of Exponents; Systems of Equations; etc. These and others are all available online for our instructors at <http://lowercolumbia.mylabsplus.com> . They are also archived on a network folder.

Purchase of manipulatives for the MAC.

We have created a schedule with seven entry points and two planned exit points, depending on their academic skills and plans. In the old schedule we had four entry points. (See attachment Every Graphic Possible.docx)

We have established instructor expectations for each of the courses (for example, see attachment Math 079 Instructor Expectations.docx).

We have developed a new diagnostic placement instrument, and in collaboration with the college’s IT department and placement center, have implemented its use. College advisors have received training on the placement system (see attachment Placement Flowchart.docx). Students can access the online test space and practice

The Math Achievement Center may represent the most significant improvement over the prior system. It is a popular alternative to classroom instruction, and we have large waiting lists each quarter. The major difficulty in raising student success in the MAC has been irregular student participation. To counter this, we implemented a weekly participation requirement for students enrolled in the Math Achievement Center. The immediate effect has been to increase visible student participation in the course, and they no longer arrive late in quarter saying they are now ready to begin their “self-paced” class. Whether this translates into increased student

success, we cannot make a conclusion as yet. We have also clarified in the schedule that this is not an online course, so students should understand the expectation of on-campus, weekly engagement.

2C. What have been the key challenges/obstacles you have encountered so far in organizing your team and the work of your project, and how are you addressing them? In particular, what challenges and issues have you encountered in considering and implementing the core practices in the context of the goals of your local project work?

One continuing challenge is establishing commonality among our many instructors. While the list of topics and their sequence has been adopted universally, we still have some instructors who prefer their own versions of classroom procedures and grading policies. This poses a problem when instructors have more or less leniency in their retake policies. As we fully implement the modularized schedule during fall 2011, with two and three-credit segments of each course, uniformity among instructors will be of paramount importance. While we won't encourage students to select different instructors within quarters, we can't prevent it, either. Not all faculty use the gradebook in MyMathLab, making assessment difficult, nor do all use the online homework in MML. This makes it difficult to use the scores for department-level assessment.

The other major obstacle has been the level of involvement from faculty. For example, most of our classes are taught by adjuncts, and only financial incentives have brought more folks to the table. For the coming year we will make it more explicit that as part of the grant we expect greater engagement in the professional development activities. In addition, to bring a broader perspective, we will encourage cross-discipline faculty exchanges. We will continue to provide financial incentives, but this may not be possible post-grant.

Among many faculty, both adjunct and contracted, there is a sense that assessment will be used in a punitive way, not formative, and that's proving difficult to overcome! There is also a continuing sense among some that addressing student needs in new ways (i.e., making the pace less frenetic or providing extra support) will result in lowered standards. We are addressing these through regular discussions, and by putting more of an emphasis on classroom exchanges this coming year, we expect we will be able to both normalize the exchanges and demonstrate that standards are not reduced.

There are no single approaches that will remove students' math anxiety or other affective domain barriers; to address these we are provide workshops and more time, but some students still aren't taking advantage. At least one instructor has mandated attendance to at least one workshop, and others are considering adopting this practice. Mitigating this issue will be an ongoing topic at the FIGs.

Next year we also will be focusing on reducing the silos between ABE and precollege education. This work will be informed by a) the SBCTC Efficiency legislation, b) goals set by the Instruction Commission, and c) LCC institutional priorities.

2D. What else can the RPM project leadership do to help you address these challenges?

The visits and workshops provided by Emily and Gillies have been seminal. These should be continued, and the emphasis during the coming year should be on classroom exchanges.

Section 3

Data and Evidence

3A. With respect to student achievement or perspectives, what evidence have you gathered or compiled so far? How have you used (or how do you plan to use) that evidence to inform the work of your project?

SAI and student surveys are a critical part of our project-assessment.— see attachment: FALL 2010 AND WINTER 2011 MATH STUDENT QUESTIONNAIRE.

In the survey we asked the following questions:

1. How many times have you been absent from this class?
2. Did you know that math tutoring is available in the Learning Commons?
3. Do you feel like you were prepared for this course?
4. Do you feel like you were placed in the right math course?
5. What method do you prefer for homework?
6. What method are you using for homework?

Please indicate how satisfied you were with each of the following resources available in MyMathLab (MML).

7. Videos
8. e-Book

We are specifically interested in increasing student completion, and to that end we are adjusting and refining the workshop schedules as student responses warrant. We also are part of a larger LCC initiative to focus on completions during the coming year. We will continue to both stabilize and refine the curriculum, instructor training, our diagnostic instrument, and student advising.

3B. With respect to faculty perspectives and behaviors related to project goals, what evidence have you gathered or compiled to date? How have you used (or how do you plan to use) that evidence to inform the work of your project?

Similar to question 1B:

Of the current 7 full-time math faculty:

- * 7 have participated in curriculum revision and have attended at least one “FIG” meeting.
- * 6 have attended meetings regarding the use of CATs.
- * 5 have attended an RPM sponsored event (summer institute and/or quarterly retreat)

Of the 13 adjunct faculty employed at LCC in the pre-college math area during the last year:

- * 9 have attended a FIG
- * 6 have attended training on CATs

* 4 have attended (or will attend) an RPM sponsored event (summer institute and/or quarterly retreat)

* 11 have attended at least one technology training on MyMathLab

Considering the challenges of overcoming inertia and suspicion, these numbers are quite encouraging.

Additional data to collect include more direct probing of changed perception and practice resulting from the grant. This year we will ask directly questions regarding the use and implementation of CATs, how FIGs are informing faculty practice, and what faculty feel they need to more fully engage in classroom exchanges.

These data are influencing the planning for next year as we have budgeted more resources for FIGs and exchanges.

3C. What additional support do you need from the RPM leadership and evaluation team to help you gather and/or use evidence to assess your project-related work?

Assistance in developing faculty practice and perception survey instruments would be helpful. We want to probe without triggering perceptions that we are monitoring to ensure orthodoxy.

We could also use assistance in analyzing our SAI data to identify elements in our reform efforts that are most and least effective.

Section 4

Budget Narrative

4A. Description of how funds will be used for Project Development Salaries, Wages, and Benefits.

Project Development Salary and Wages	\$16,169.00	Project Development Employee Benefits	\$2,911.00
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There are two categories for this section: Classroom Exchanges and FIGs. Up to 15 faculty will engage in 2 FIG meetings each quarter for each of the 3 courses. Up to 8 faculty will participate in exchanges. Benefits are figured at 18%.

4B. Description of how funds will be used for Project Development Goods and Services.

Project Development Goods and Services	\$1,850.00
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Two more computers will be purchased for the MAC. Students will use these for home work and practicing exams.

4C. Description of how funds will be used for Project Development Building Rental and Utilizations.

Project Development Building Rental & Utilizations	\$0.00
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4D. Description of how funds will be used for Project Development Travel.

Project Development Travel	\$0.00
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4E. Description of how funds will be used for Project Development Contracts.

Project Development Contracts	\$0.00
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4F. Description of how funds will be used for Instruction Salaries, Wages, and Benefits.

Instruction Salary and Wages	\$20,398.00	Instruction Employee Benefits	\$3,672.00
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There are 2 categories in this section: Faculty-led workshops and hourly assistants in the Math Achievement Center. There are 42 workshop topics given each quarter, and 32 of them will be repeated twice. Benefits are calculated at 18%.

4G. Description of how funds will be used for Instruction Goods and Services.

**Instruction
Goods and Services** \$0.00

4H. Description of how funds will be used for Instruction Building Rental and Utilizations.

**Instruction
Building Rental &
Utilizations** \$0.00

4I. Description of how funds will be used for Instruction Travel.

**Instruction
Travel** \$0.00

4J. Description of how funds will be used for Instruction Contracts.

**Instruction
Contracts** \$0.00

4K. Description of how funds will be used for Administration Salaries, Wages, and Benefits.

Administration Salary and Wages	\$4,237.00	Administration Employee Benefits	\$762.00
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The faculty project lead will be paid a modest stipend each quarter. Benefits are 18%. Lead responsibilities include: coordination and scheduling of MAC workshops; agenda and resource development for the FIGs and exchanges; relentless encouragement and recruitment of faculty for professional development opportunities; coordination with testing and advising; training of advisors, etc.

4L. Description of how funds will be used for Administration Goods and Services.

**Administration
Goods and Services** \$0.00

4M. Description of how funds will be used for Administration Building Rental and Utilizations.

**Administration
Building Rental &
Utilizations** \$0.00

4N. Description of how funds will be used for Administration Travel.

**Administration
Travel** \$0.00

40. Description of how funds will be used for Administration Contracts.**Administration****Contracts**

\$0.00

Budget

Organization: Lower Columbia College

Activity	Salary and Wages	Employee Benefits	Goods and Services	Building Rental & Utilizations	Travel	Contracts	Total
Project Development	\$16,169.00	\$2,911.00	\$1,850.00	\$0.00	\$0.00	\$0.00	\$20,930.00
Instruction	\$20,398.00	\$3,672.00	\$0.00	\$0.00	\$0.00	\$0.00	\$24,070.00
Administration	\$4,237.00	\$762.00	\$0.00	\$0.00	\$0.00	\$0.00	\$4,999.00
Total	\$40,804.00	\$7,345.00	\$1,850.00	\$0.00	\$0.00	\$0.00	\$49,999.00